



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,417	08/15/2003	Hung-Jen Chu	38699-8033US	1459
25096	7590	06/03/2005	EXAMINER	
PERKINS COIE LLP			NOVACEK, CHRISTY L	
PATENT-SEA			ART UNIT	
P.O. BOX 1247			2822	
SEATTLE, WA 98111-1247			PAPER NUMBER	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/642,417

Applicant(s)

CHU ET AL.

Examiner

Christy L. Novacek

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Election filed March 8, 2005.

Election/Restrictions

Applicant's election of claims 13-20 in the response filed March 8, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Non-elected claims 1-12 have been canceled.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the word "activity" means in this claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of West et al. (US 6,521,975).

Regarding claim 13, the admitted prior art discloses providing a first substrate, forming a gate electrode and a gate electrode line on the substrate, wherein the gate electrode line includes a gate terminal and a lead, depositing a blanket gate insulating layer on the gate electrode, gate electrode line, and substrate, forming an island semiconductor layer on the gate electrode and a source electrode and a drain electrode on the island semiconductor layer, and depositing a blanket passivation layer on the source electrode, the drain electrode (Fig. 1; para. 0004-0006). The admitted prior art discloses a scribing line located at the periphery of the gate electrode line on a margin of a second substrate with a color filter thereon, but does not disclose forming a resist region located at the scribing line. Like the admitted prior art, West discloses a process of forming an integrated circuit device on a substrate, wherein the substrate and overlying layers are subjected to a scribing process to divide the substrate into individual integrated circuits. West teaches that the overlying layers on the substrate are prone to cracking under the strain imposed by the scribing process (col. 3, ln. 36 – col. 4, ln. 50). To prevent the cracking from destroying the integrated circuit, West teaches that it is beneficial to deposit a resist region within the overlying layers on the substrate (col. 4, ln. 56-62). West states that these resist regions can be deposited and patterned at the same time as other metal layers in the integrated circuit (col. 7, ln. 33-35). At the time of the invention, it would have been obvious to one of ordinary skill in the art to deposit the resist regions of West at the scribe region of the admitted prior art because West discloses that these resist regions are beneficial when used in any type of integrated circuit

Art Unit: 2822

that is being diced and because West teaches that these resist regions can prevent crack propagation from destroying the integrated circuit.

Regarding claim 14, West discloses that the resist regions are made of metal (col. 4, ln. 56-62).

Regarding claim 15, West discloses that the resist region can be floating (col. 9, ln. 56 – col. 10, ln. 11).

Regarding claim 16, as stated above, West discloses that the step of formation the metal resist region can occur simultaneously with any metal feature formation step.

Regarding claim 17, the admitted prior art discloses forming an island semiconductor layer on the gate insulating layer and over the gate electrode, depositing a blanket metal layer on said island semiconductor layer and the gate insulating layer, performing a lithographic process to the conductive layer by using a reticle with a source pattern and a drain pattern on the gate electrode and etching the conductive layer to form the source and drain electrodes. West discloses that the step of formation the metal resist region can occur simultaneously with any metal feature formation step.

Regarding claim 19, West does not disclose any particular distance between the scribing line and the margin of the floating metal resist region. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use routine experimentation to determine an optimum distance between the scribing line and the margin of the resist region, depending upon the materials and thicknesses of the overlying layers and the method of scribing used, because West does not disclose any particular distance and because such variables of art

Art Unit: 2822

recognized importance are subject to routine experimentation and discovery of an optimum value for such variables is obvious. See *In re Aller*, 105 USPQ 233 (CCPA 1955).

Regarding claim 20, West discloses that the width of the metal resist region can be about 0.2-0.6 micrometers. Neither West nor the admitted prior art discloses the width of the gate electrode line. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use routine experimentation to determine an optimum relative thickness between the resist region and the gate electrode line, depending upon the materials and thicknesses of the overlying layers and the method of scribing used, because neither West nor the admitted prior art disclose any particular relative thickness and because such variables of art recognized importance are subject to routine experimentation and discovery of an optimum value for such variables is obvious. See *In re Aller*, 105 USPQ 233 (CCPA 1955).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakata et al. (US 6,787,930) disclose forming alignment marks simultaneous with the forming of the source/drain electrodes of a TFT.



AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800